

Avian Influenza (AI) Preparedness and Response



Veterinary Services

March 29, 2006



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Topics Covered

1. Avian Influenza Overview
2. USDA's AI Interventions
 - Targeted surveillance
 - Border protection
 - Trade restrictions & OIE guidelines
 - Outreach & education
 - Preparedness & response



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Avian Influenza Overview

- Avian influenza (AI) - identified in the early 1900s
- High pathogenic avian influenza (HPAI) – causes contagious illness, death in birds; Low pathogenic (LPAI) causes mild to no illness
- Vast majority of AI viruses found in birds do not represent a public health concern

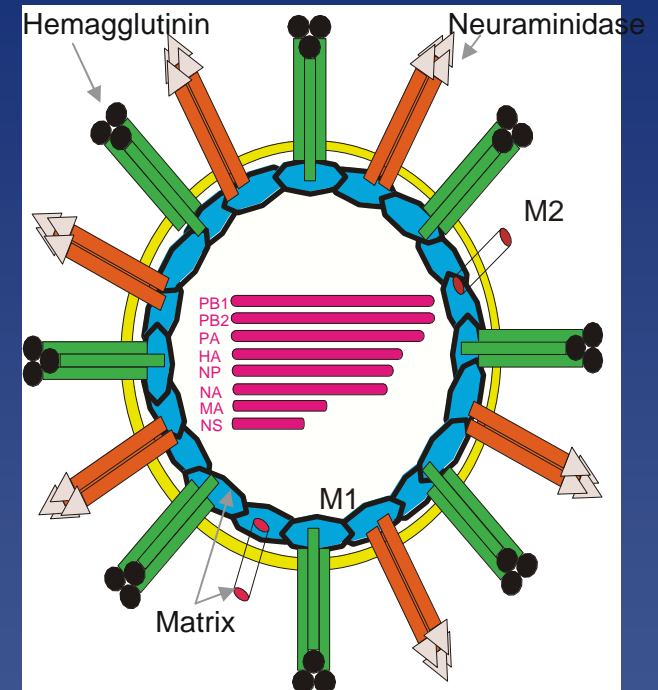


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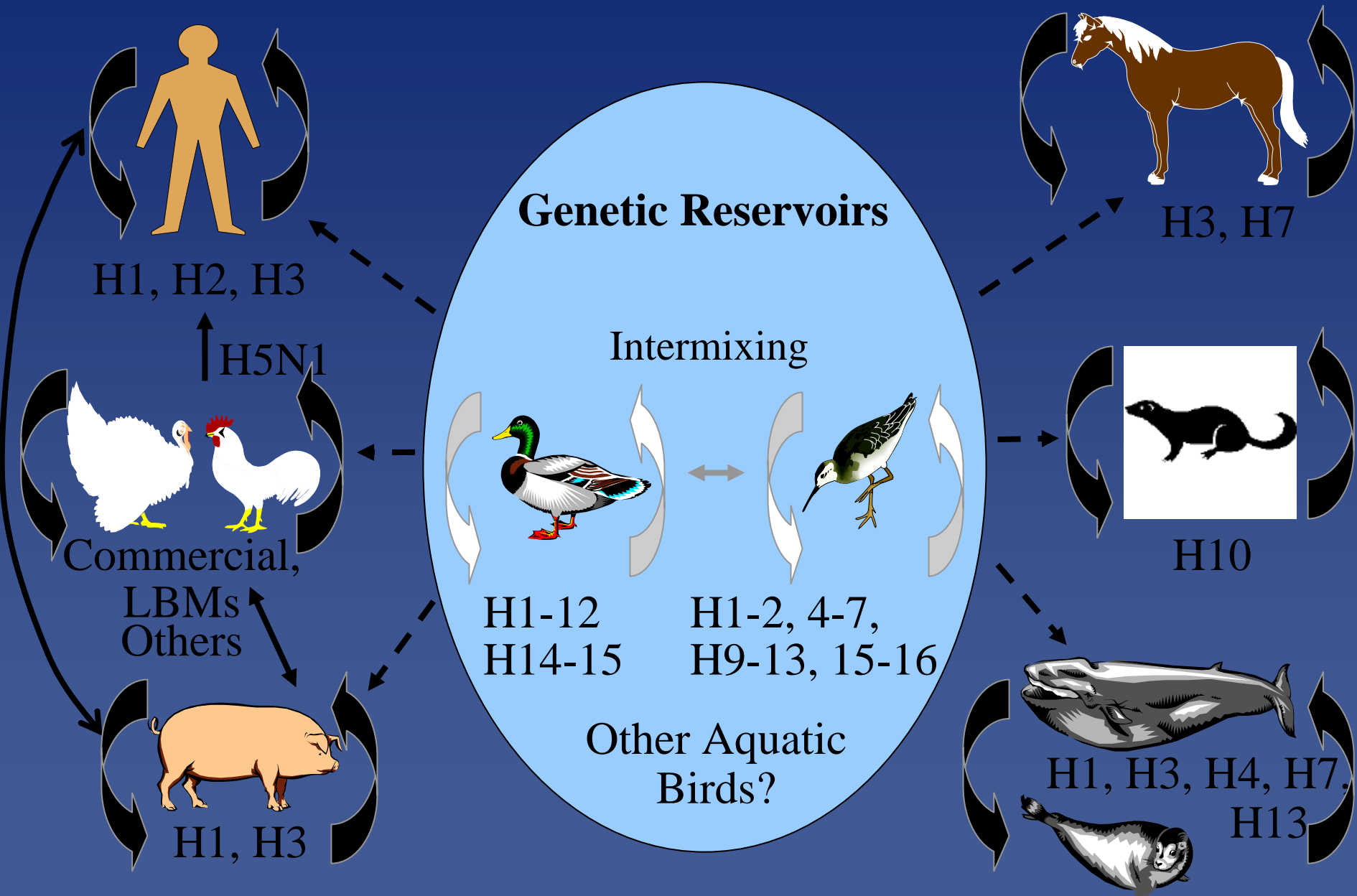


Avian Influenza Overview (cont.)

- Virus is characterized by H and N type (surface proteins).
- 144 different characterizations of the virus, based on 16 H types and 9 N types
- AI viruses mutate easily; only H5 and H7 viruses have the potential to mutate from an LPAI to an HPAI form.
- AI viruses vary widely in pathogenicity from strain to strain. Therefore not all H5N1 viruses are infectious for people nor are pathogenic to poultry.



Species Affected



How is the virus spread among birds?

- Direct contact between healthy and infected birds
- Infected fecal matter
- Can be found on surface of unwashed egg shells from infected birds



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Three HPAI Findings in U.S.

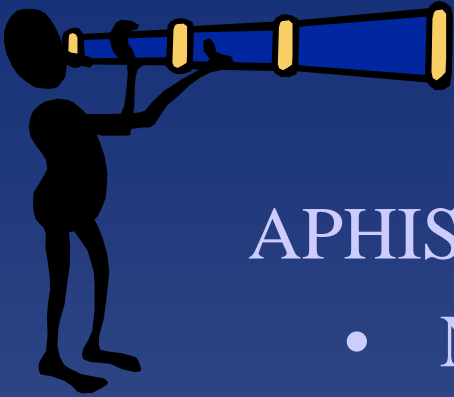
- 1924 – “Fowl Plague” affected live bird markets in the Northeastern U.S.
- 1983 – destruction of 17 million birds in PA
- 2004 – quickly contained and eradicated in TX



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AI Surveillance



APHIS and States conduct surveillance through:

- National Poultry Improvement Plan (NPIP)
- State and University laboratories
- Export testing at slaughter
- State movement requirements



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AI Surveillance (cont.)

APHIS' safeguarding system encompasses:

- Targeted surveillance
- Cooperative efforts with States and Industry
- Outreach and education
- Trade restrictions
- Anti-smuggling programs



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LPAI Surveillance and Control Plan

- Federally-coordinated and State-assisted LPAI H5/H7 LPAI Control Program
 - Commercial poultry
 - Live bird marketing system
- Since 1986, APHIS and States have monitored live bird markets (LBMs) in Northeast U.S.

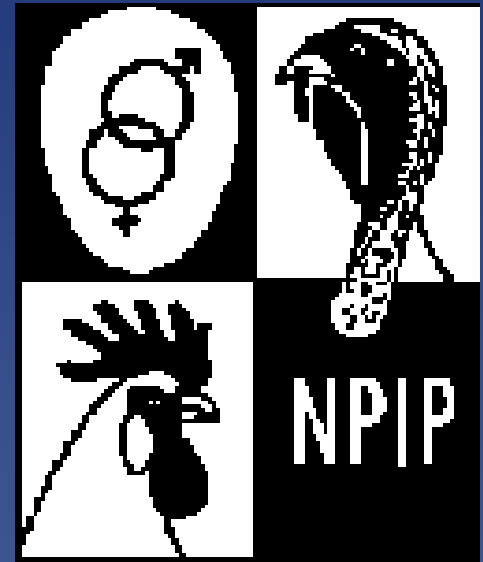


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Surveillance: NPIP

- Establishes standards for evaluation of poultry breeding stock and hatchery products
- “Avian influenza free” certification for commercial companies
- New LPAI program that will provide for H5 and H7 AI monitoring



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Surveillance: NPIP (cont.)

- New LPAI program that will provide for H5 and H7 AI monitoring
- Program components: “AI monitored” program, surveillance specifications, and State LPAI response and containment plans



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LBM – Surveillance

Uniform Standards published in 2004 provide guidelines for markets, dealers and producers:

- Licensing requirements and education
- Bird testing and recordkeeping
- Sanitation and biosecurity
- Surveillance and inspections
- LPAI positive facilities



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LBM – Surveillance (cont.)

- States enforce LPAI program standards
- Federal indemnification provided for participating States with positive diagnosis of H5 or H7 LPAI
- APHIS initiated cooperative agreements with 21 States



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LPAI Surveillance – National Animal Health Laboratory Network (NAHLN)

37 States participate in the network. NAHLN labs:

- Provide laboratory services nationwide
- Provide laboratory data for reporting
- Respond to foreign animal disease outbreaks
- Focus on animal diseases



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Border Protection & Risk of Introduction of Asian Strain of H5N1

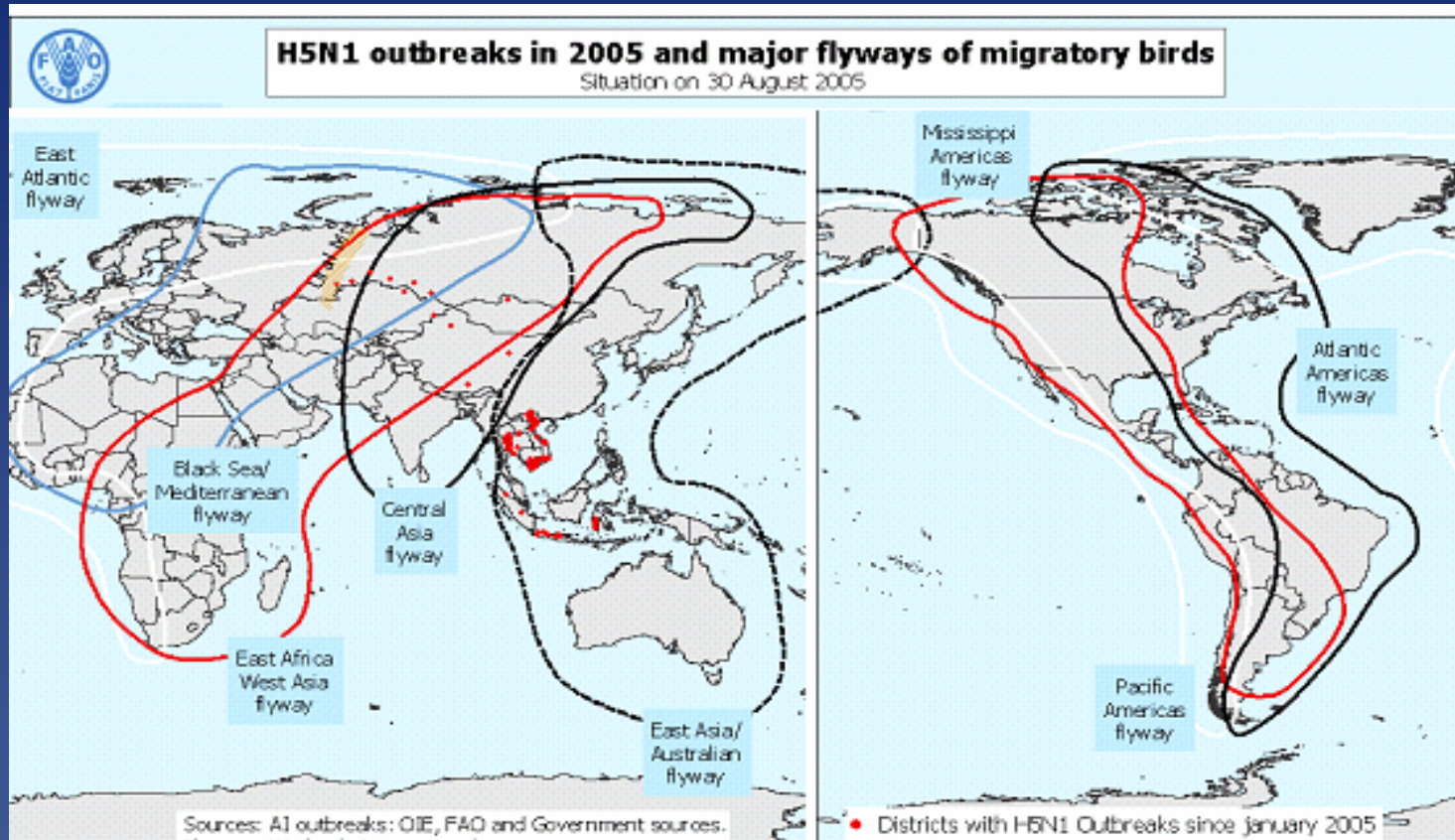
- USDA works closely with DHS to prevent smuggling of illegal poultry and poultry products.
- USDA's Smuggling Interdiction and Trade Compliance unit and DHS' Customs and Border Patrol actively monitor U.S. ports.
- Legally imported birds from other countries are tested for AI.



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Border Protection & Risk of Introduction of H5N1 Asian Strain of H5N1



Migratory Birds –
Overlap of
summer
breeding
grounds in
Alaska,
Northeast
Canada

- Genetic separation of H5 AI viruses between New & Old World
- Asian birds rarely get off course and go to N. America
- Risk from wild birds is low

Trade Restrictions

- USDA maintains trade restrictions on countries affected by H5N1:
 - Afghanistan, Albania, Azerbaijan, Cambodia, Cameroon, Egypt, **France (VS defined restricted zone only)**, India, Indonesia, Israel, Japan, Laos, Kazakhstan, Malaysia, Myanmar, Niger, Nigeria, People's Republic of China, Romania, Russia, South Korea, Thailand, Turkey, Ukraine, and Vietnam
 - Poultry and poultry products from those countries are strictly prohibited.
- USDA works with trading partners and the World Organization for Animal Health (OIE) to maintain safe trade.



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World Organization for Animal Health (OIE) – Reporting and Guidelines

OIE guidelines state that:

- HPAI and all H5/7 LPAI must be reported to the OIE.
- Poultry meat and table eggs do not transmit LPAI
 - Trade in poultry and poultry products can continue despite a finding of LPAI
- Recommends certain health measures for the trade in poultry and poultry products based on risk and AI status
- Compartmentalization allows countries to document separation based on biosecurity



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Outreach & Education

USDA's Biosecurity for the Birds Campaign is an extensive and far-reaching outreach initiative designed to:

- Educate non-commercial poultry owners about the signs of AI & other poultry diseases
- Promote the importance of practicing biosecurity
- Encourage rapid reporting of clinical signs of disease and/or unexpected deaths



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USDA AI Web Site

www.usda.gov/birdflu

- Information about “Biosecurity for the Birds” program
- Links to other Federal entities working on AI
- Fact Sheets and other information resources
- Q&A on AI
- News Releases
- Technical Briefings



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Preparedness in the Event of an Outbreak

- Key is early detection and rapid response
- USDA maintains a comprehensive emergency response structure:
 - Partnerships with local, State, and Federal organizations
 - Integration with the National Response Plan
 - Continual collaboration with HHS, DHS and other Federal entities
 - Diagnostic capabilities



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Response to an Outbreak in Poultry

- Guidelines
- Stamping out
- National Response Plan
- First responders
- Vaccines



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Response for AI in Wild Birds

- Manage wildlife threats
- Assess risk wildlife poses to susceptible livestock and poultry
- Containment, survey and surveillance, and population management



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Questions?



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